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Effect of Big Five Personality Types on Students Learning Outcomes among Senior Secondary Schools in Edo State, Nigeria

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Abstract
This study researched the relationship between personality type and learning outcomes among senior secondary school students in Edo State, Nigeria. It sought to show how each of the big five personality dimensions of Openness, Conscientiousness, Extraversion, Agreeableness, and Introversion would predict cognitive, psychomotor, and affective learning outcomes. This was a quantitative study. The design used was a survey involving 117 secondary school students and 16 teachers. The main instrument used was a questionnaire. Multiple regressions was performed when analyzing the collected work. Results showed that openness to experience, extraversion, introversion are significantly positively associated with cognitive and affective learning outcomes, while conscientiousness is significantly negatively related to cognitive learning outcome, and agreeableness is significantly negatively related to the cognitive learning outcome but is not significantly related to psychomotor and affective outcomes. These results appear to support the previous finding that personality type makes a remarkable difference in the reasons for the learning outcomes among secondary school students. Educators and policymakers need to consider directing their programmes toward personality-related interventions, including personality tests for the students, as these may play a role in enhancing the student learning outcomes. Personalized learning approaches should be provided based on the student's personality type, and self-awareness about personality weaknesses and strengths. Future research should find out how the longitudinal effects of personality on the learning outcome could be influenced by personality in terms of some subjects or skills.

***Keywords*:** Affective domain; cognitive domain; learning outcomes; personality type; psychomotor educational objectives

Introduction

The achievement of learning outcomes is a major aim in educational landscape, especially for the fact that learning outcomes ensure that students acquire relevant knowledge, competencies, and attitudes towards the achievement of success in their future endeavours (Atela 2023; Yu, 2021). In that case, learning outcomes specify what knowledge, skills, and attitudes students will have to acquire as a result of the learning process (Aydemir & Bayram, 2022). The basic learning outcomes for this level of secondary school entail cognitive, psychomotor, and affective domains, which allude to knowledge and understanding, skills and abilities, attitudes, and values respectively (Brandt, Lechner, Tetzner, & Rammstedt, 2020).

It has been shown that students' learning outcomes vary over their different personality types (Eliezer & Marantika, 2022). The ways in which students achieve learning outcomes, or go about their learning effectively, can be predicted by individual personality traits such as openness to experience, conscientiousness, extraversion, and agreeableness (Atela, 2023). Introversion is also another vital dimension of personality that influences learning outcomes (Aydemir & Bayram, 2022). Openness to experience is concerned with being curious, having an exposed mindset, and willingness to accept ideas (Yu, 2021). Students who are rated high in terms of openness tend to achieve good learning outcomes, especially in areas that deal with thinking critically. Conscientiousness is concerned with being organized, showing responsibility, and purposefulness (Atela, 2023). It is reported that conscientious students perform better in academic tasks requiring planning and self-discipline (Eliezer & Marantika, 2022). Extraversion refers to the degree by which students are outgoing, sociable, and assertive (Aydemir & Bayram, 2022). On the other hand, introversion alludes to the degree by which students are reserved, reflective, and independent. While both extraversion and introversion can influence learning outcomes, extraverted students do better in group work and other social activities, and the best are introverted students who are independent in their studies and quiet in reflection.

Previous studies done within this stream of research focus on various aspects of personality and learning styles as they link to academic performance; however, they all have a limitation in the Big Five model, learning outcome, and geographical scope that this

research covers. Studies such as Eliezer and Marantika (2022), as well as Atela (2023) did not focus more on the big-5 personality traits. Although Yu (2021), and Ayademir and Bayram (2022) attempted to, but they were superficial. Brandt et al. (2020) focused a reasonable level of coverage to the Big Five model in terms of academic performance, but the study was not with respect to Nigerian students.

On the note of learning outcomes, none of these studies explicitly traces its work back to cognitive, psychomotor, and affective learning outcomes. Yu, (2021), is closest to this with the examination of the effectiveness of online learning but fails to mention what type of learning outcomes. The other studies talk of academic performance, grades, test scores, but none of these, linked them up with the types of learning outcomes. This creates a lacuna about how personality traits and learning styles influence various aspects of learning.

Geographically, none of the studies represent schools in Edo State, Nigeria. The studies were based in Germany, Kenya, and an unspecified locations. This lack of representation creates a geographical gap for research in contexts like Nigeria. This was done to assess the effect of personality type on the learning outcomes of students in the subjects of English Language and Mathematics at senior secondary school level in IkpobaOkha Local Government Area of Edo State, Nigeria.

Objectives of the Study

The main of objective of the study is to examine the effect of personality types on the learning outcomes of secondary school students. Specifically, the study seeks to:

1. determine the correlation of openness to experience with the learning outcomes (such as cognitive, psychomotor, and affective) of secondary school students in Edo State;
2. determine the correlation of conscientiousness with the learning outcomes (such as cognitive, psychomotor, and affective) of secondary school students in Edo State;
3. ascertain the influence of extraversion with the learning outcomes (such as cognitive, psychomotor, and affective) of secondary school students in Edo State;
4. examine the relationship between agreeableness with the learning outcomes (such as cognitive, psychomotor, and affective) of secondary school students in Edo State; and

5. determine the effect of introversion on the learning outcomes (such as cognitive, psychomotor, and affective) of secondary school students in Edo State.

Research Hypotheses

The following 5 null hypotheses were formulated:

1. There is no significant relationship between openness to experience and the learning outcomes (such as cognitive, psychomotor, and affective) of secondary school students in Edo State;
2. There is no significant relationship between conscientiousness and the learning outcomes (such as cognitive, psychomotor, and affective) of secondary school students in Edo State;
3. There is no significant relationship between extraversion and the learning outcomes of secondary school students in Edo State;
4. There is no significant relationship between agreeableness and the learning outcomes (such as cognitive, psychomotor, and affective) of secondary school students in Edo State; and
5. There is no significant relationship between introversion and the learning outcomes (such as cognitive, psychomotor, and affective) of secondary school students in Edo State.

Literature Review

Learning outcomes hold a central part in gauging the effectiveness of the educational process. They define what learners should know and the skills and abilities they are supposed to acquire after going through a learning experience (Andreev, 2024; South Caroline University, 2024). This is quite central in designing curricula and assessment, but the definition of this concept has slight differences in different contexts of education. One definition of learning outcomes refers to statements of what learners should know, be able to do, and value at the end of a learning experience or sequence of learning experiences (Biggs & Tang, 2011; Denise & Jane, 2016). This definition insists on outcomes that are observable and measurable, concentrating on student performance rather than instructor activities. Another perspective conceptualises learning outcomes as clear, observable, and measurable statements articulating what learners

should know, be able to do, and be able to value because of completing a learning experience.

The definition really places a premium on clarity and specificity in outcome statements so that both the instructor and the student are very clear about expectations. The learning outcome is described, from a broader perspective, as specific descriptions of knowledge, skills, or expertise that a student will consequently gain from the learning activity (Andreev, 2024). This definition places more focus on the role outcomes play in guiding the choice of teaching and learning activities and assessing the achievement of students. Although it appears that the definitions are not alike, at surface level, they however share common themes of student-centeredness, measurability, and focus on learning results. They act as future direction for students and teachers, and serve as guide in developing curriculum, instructing, and assessing students. Learning outcomes can be categorized into various forms, each representing different aspects of student development. On a general scale, secondary school students' learning outcomes fall into cognitive, psychomotor, and affective learning outcomes.

These outcomes are inclined to the intellectual development of the learner and emphasize knowledge acquisition, understanding, and critical thinking. They normally fall under Bloom's taxonomy (1956), which classified cognitive skills into levels ranging from basic recall to complex evaluation. They are cognitive learning outcomes, which cover various intellectual abilities; knowledge, dealing with recalling facts, terms, theories; comprehension, which is concerned with understanding information; application, which is demonstrating the use of knowledge in new contexts; analysis, that is breaking down information to explore relationships between parts; synthesis, which denotes combining information to create new ideas or products; and evaluation, which entails making judgments about the value of information or ideas.

These outcomes concentrate on the development of physical skills and coordination. They are commonly found in extra-curricular activities such as sports, music, and vocational training. Examples include basic motor skills, which include fundamental movements like walking, running, and jumping; complex motor skills, which include advanced skills requiring precision and coordination, such as playing an instrument or performing surgery; and physical fitness, which includes development of endurance, strength, and flexibility.

These outcomes relate to attitudes, values, and emotions. They often involve changes in beliefs, feelings, and behaviours. They involve affective learning outcomes, which are the development of attitudes, values, and emotions. Receiving, which is awareness of stimuli and a willing to attend; responding, meaning active participation overt behaviour; valuing, attaching worth or importance to objects, people, or ideas; organizing, relating values to others forming a value system; and characterizing by value, consistent behaviour considering developed value system.

Personality on the other hand, is a dynamic system that influences an individual's thoughts, feelings, and behaviours while at the same time being influenced by his or her own experiences, social context, and culture. Many theories vaunt this dynamism in personality, and particularly, the numerous interactions between individual differences and the environment. According to Siegel (2017), "an emergent property of the complex interactions between an individual's genes, brain, and environment, which shapes their unique patterns of thought, emotion, and behaviour" (p. 25). In fact, according to Siegel's definition, the highest emphasis is given to neurobiology and interpersonal relationships on the way to forming personality. Therefore, these definitions implied that personality is a dynamic, complex, and unique system which originates from interactions between the biological, psychological, and social factors of an individual, influences its thoughts, feelings, and behaviours and keeps on changing across the entire course of life.

Studies show that there are five major personality typologies of secondary school students. They include openness to experience, conscientiousness, extraversion, agreeableness, and introversion. These are discussed below.

Openness to Experience

Openness to experience will describe the degree to which a person is open to new ideas, experiences, or varied points of view. As such, this normally turns out to be a welcomed approach towards new approaches of learning or topics. As John and Srivastava (1999) noted, an open person is characterized by being curious, imaginative, and creative. They simply have a general liking to experience many things and gain knowledge (Feist, 2013). In the academic domain, openness to experience may enhance deeper learning, better critical thinking, and

a greater level of innovation since the student is likelier to venture into newer ideas and newer approaches (Kashdan & Ciarrochi, 2013).

Conscientiousness

Conscientiousness refers to the individual differences in people regarding organization, self-discipline, and responsibility reflected in time management and homework submission (Tackett, Lahey & Waldman, 2017). Conscientious students are more goal-directed, plan and organize their tasks better, and meet deadlines without failure. As Yu (2021) notes, in an academic perspective, conscientiousness is a prime characteristic in driving towards success since it keeps the student always on top of all assignments, be effective in time management, and maintain high productivity levels.

Extraversion

Extraversion is one's level of class participation and engaging in group activities (Aydemir & Bayram, 2022). People scoring high in extraversion are likely to be outgoing, talkative, and assertive; therefore, they are commonly found assuming leadership roles within groups. Extraverted students participate more in class discussions, engage in group projects, and seek social interaction with peers. However, too much extraversion can lead to distractions and a lack of focus on individual tasks due to increased engagement in social events.

Agreeableness

Agreeableness refers to the quality of interactions with peers and teachers: it is about teamwork, conflict resolution, and empathy (Graziano & Tobin, 2017). Agreeable people are more cooperative, tender-minded, and sensitive to others' needs, usually rating harmony and social cohesion at the top of their lists (Yu, 2021). Agreeableness can foster favourable peer and teacher relations, efficient teamwork, and a good school learning environment.

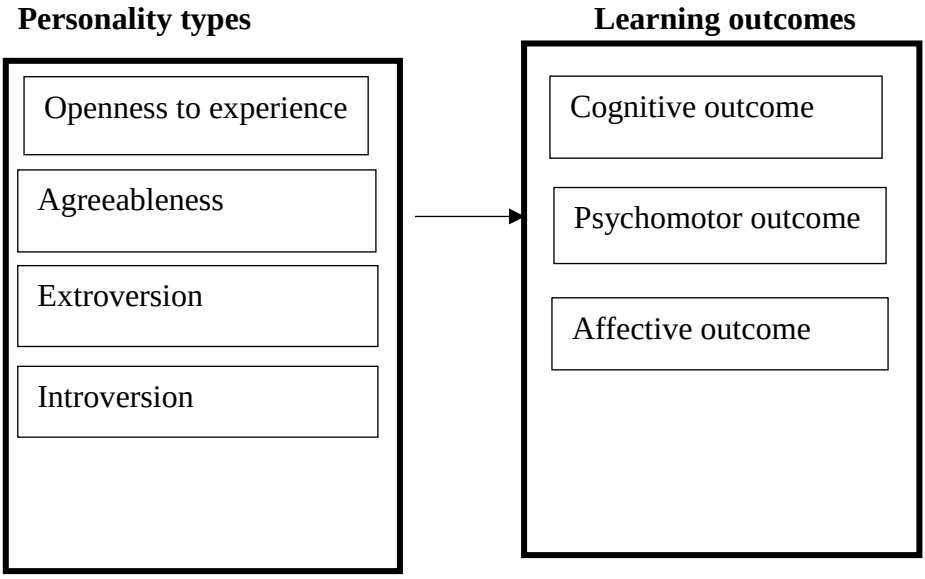
Introversion

Introversion is characterized by a preference to study alone and normally preferring quieter environments while finding group study and social interactions tiring (Cain, 2012). The introverted are more reflective, independent, and self-motivated, hence they prefer to work independently and remain focused on their own thoughts and ideas. While more introverted students are bound to excel at individual assignments and quiet study environments in the academic setting, it is not so easy to do group work and make class presentations.

Introversion, however, fosters creativity, allows one to enhance his or her critical thinking processes, and achieve a deeper understanding of the subject matter at hand.

Research Model

Independent variable: **Dependent variable:**



Source: Researchers' construction (2024)

Theoretical Review

This study relies on the big five theory of personality which was popularized by McCrae and Costa (1987). The theory assumes that personality can be described in terms of five very important dimensions: Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism, commonly known to form the acronym OCEAN. The dimensions are relatively stable across time and situations and the basis for individual differences in behaviour, thoughts, and feelings. Such dimensions are hierarchically organized, according to the theory— that is, more specific traits and facets are nested within the general dimensions. Concerning how the Big Five theory can be applied, for example, in a study that reveals the influence of personality type on the learning outcome of a secondary school

student, it has provided aspects of individual differences in the OCEAN dimensions that relate to academic achievement and learning behaviours. For example, the study by Poropat (2014) reveals that Conscientiousness is positively related to academic achievement, whereas Neuroticism stands in a negative relationship. Knowing how personality types, influence learning results can guide an educator in designing the best intervention for his or her learners.

Empirical Review

Yu (2021) examined the ways through which the effectiveness of online instruction could be enhanced in this very special period. From the mixed research design that was adopted, it was revealed that students in post graduate studies in online studies did better than the undergraduate students in the courses offered online. They also scored higher in agreeableness, conscientiousness and openness to experience. Another study by Eliezer and Marantika (2022) established the relationship between gender, learning outcomes, and learning styles. The descriptive research design was used as the approach for conducting the inquiry. The sample, randomly selected during the second semester from thirty German learners, had fifteen male and fifteen female individuals. The overall findings pointed out a relation between learning results, gender, and educational styles. Concluding the study, it can be interpreted that gender and educational style may influence students' results-oriented learning outcome with respect to their language ability.

Also, Atela (2023) examined undergraduates in 100 level in government owned universities in Kenya. The study examined personality types in relation to intelligence level of the students. It was descriptive study. It was found that the male students had more sociable personality than the female students. However, the women dominated in terms of openness to experience. Moreover, Aydemir and Bayram (2022) examined personality typologies and learning methods using path analysis. They found that extroversion and openness impacted surface and in-depth learning. Additionally, it was discovered that a sense of self-worth significantly impacted the superficial and in-depth studying. The findings indicate that personality traits influence learning methodologies in some way. Considering the in-depth learning strategy as the ideal learning approach, the study's result indicates that self-efficacy and personality types have remarkably positive influence on

deep learning. Furthermore, Brandt, et al. (2020) examined whether the relationships between cognitive ability and personality and academic performance varied across ability-grouped school tracks as well as between school subjects. In a sizable representative population of ninth-grade German pupils, SEM models were used. Compared to the other tracks, personality factors accounted for a greater portion of the variance in academic success.

Methodology

Research Design

Descriptive survey method was adopted for the study. The method was particularly used to gather data on the respondents' views and opinion concerning the phenomenon that was studied.

Population

The target population of this study comprised Mathematics and English language teachers as well as students in public secondary schools in Ikopba-Okha LGA of Edo State of Nigeria.

Sampling Technique

Data from Ministry of Education, Edo State reveal that there are 12 public secondary schools in the Ikopba-Okha LGA of Edo State. To avoid bias in the selection of schools, multi-stage sampling technique was used. First, simple random sampling was used in selecting the schools. The schools were numbered in their order of publication number inopendata.edostate.gov.ng. The 3rditem that represented a school was circled. Hence 4 schools were identified for the study. Table 1 presents the selected schools.

The second stage was to randomly select students from the sampled school to serve as respondents. The total number of students for the study was therefore 117

The English and mathematics teachers from the selected secondary schools were also chosen using simple random sampling. That is all teachers who teach English language and Mathematics in the SS arms were itemized, 16 mathematics and English language teachers were selected for the study. Therefore, the grand total of respondents for the study was 133. This is represented in Table 1.

Table 1: Sample Distribution of Respondents

Schools	**Mathematics and English Language Teachers**	**SS 1-3 students**
Army Day Sen. Sch	4	25
Oka Secondary School	4	27
Ugiomo Sec. Sch	4	32
Western Boys High School	4	33
Total	**16**	**133**

Source: Fieldwork (2024)

Research Instrument

A structured instrument titled: Effect of Personality Type on Students' Learning Outcomes Questionnaire (EPTSLOQ) was used for the research study. It was structured basically into two sections. Section A contained demographic data while section B contained 32 items structured in Likert scale method of Strongly Agreed (4), Agree (3), Disagree (2), and Strongly Disagree(1) point.

Validity of the Instrument

The content and face validity of the instrument were carried out by giving the draft of the instrument to 2 experts in education research. Their corrections and suggestions were used to develop the final draft of the questionnaire.

Reliability of the Instrument

The questionnaire was further subjected to reliability test. The results are shown in Table 2.

Table 2: Reliability Results

Variables	No. items	Cronbach value
Extraversion	4	0.721
Introversion	4	0.791
Conscientiousness	4	0.733
Openness to experience	4	0.781
Agreeableness	4	0.708
Cognitive outcome	4	0.755
Psychomotor outcome	4	0.778
Affective outcome	4	0.810

The Cronbach alpha values were above 70% (0.7) indicating that the research instrument was reliable for the study.

Method of Data Analysis

The data collected were analysed using inferential statistics such as Pearson correlation through the SPSS version 25.

Results

Relationship between Personality Types and Learning Outcomes

The regression was deployed in testing the different hypothetical statements of this study.

Ho_1: There is no significant relationship between openness to experience and learning outcomes (such as cognitive, psychomotor, and affective).

Table 3: Openness to Experience and Learning Outcome

Variables	Coefficients	Cognitive	Psychomotor	Affective
Openness to experience	Unstandardised coefficient B	.184	-.035	.233
	Standard Error	.054	.062	.058
	T	3.396	-.561	4.022
	Sig.	.001	.575	.000

The results from the regression indicate openness to experience expresses relations with learning outcomes, that is, cognitive, psychomotor, and affective. For cognitive learning outcomes, the B = 0.184, that is a positive relationship statistically significant at $p < 0.05$. Likewise, for affective learning outcome, B = 0.233, indicating a positive relationship, statistically significant at $p < 0.05$. However, for psychomotor learning outcomes, B = -0.035, which indicates a negative relationship, but it is not statistically significant at $p = 0.575 > 0.05$. From the findings on the above, we test the hypothesis. Hence, we reject Ho_1 on cognitive and affective learning outcomes but fail to reject it on psychomotor learning outcome.

Ho_2: There is no significant relationship between conscientiousness and learning outcomes (such as cognitive, psychomotor, and affective).

Table 4: Conscientiousness and Learning Outcome

Variables	Coefficients	Cognitive	Psychomotor	Affective
Conscien-tiousness	Unstandardised coefficient B	-.254	.008	-.065
	Standard Error	.061	.070	.066
	T	-4.142	.108	-.982
	Sig.	.000	.914	.327

The regression results are those which present the relation of conscientiousness with learning outcomes, whether cognitive, affective, and psychomotor. For the cognitive learning outcomes, B = -0.254, indicating a negative relationship, and this is statistically significant at $p < 0.005$. At the same time, for the psychomotor learning outcomes, B = 0.008, indicating a positive relationship, though not statistically significant at $p = 0.914$. Likewise, with regard to affective learning outcomes, B = -0.065, which indicates a negative relationship but, once more, is not significantly different from zero because $p = 0.327$. Based on this, we reject Ho_2 for cognitive learning outcomes but fail to reject it for psychomotor and affective learning outcomes.

Ho_3: There is no significant relationship between extraversion and learning outcomes (such as cognitive, psychomotor, and affective).

Table 5: Extraversion and Learning Outcomes

Variables	Coefficients	Cognitive	Psychomotor	Affective
Extraversion	Unstandardised coefficient B	.487	.460	-.171
	Standard Error	.095	.109	.102
	T	5.104	4.229	-1.673
	Sig.	.000	.000	.095

The regression results give a relationship between extraversion and learning outcomes: cognitive, psychomotor, and affective. In the cognitive learning outcome, the B = 0.487, indicating a positive relationship statistically significant at $p < 0.05$. Similarly, in the psychomotor learning outcomes, B = 0.460, also indicating a positive

relationship statistically significant at $p < 0.001$. For affective learning outcomes, –0.171, hence a negative relationship, but not statistically significant at $p = 0.095 > 0.05$. According to these results, we reject Ho_3 for cognitive and psychomotor learning outcomes and fail to reject it for affective learning outcomes.

Ho_4: There is no significant relationship between agreeableness and learning outcomes (such as cognitive, psychomotor, and affective).

Table 6: Agreeableness and Learning Outcomes

Variables	**Coefficients**	**Cognitive**	**Psychomotor**	**Affective**
Agreeableness	Unstandardised coefficient B	-.169	.118	-.171
	Standard Error	.059	.067	.102
	T	-2.870	1.762	-1.673
	Sig.	.004	.079	.095

The regression results show Agreeableness with Learning Outcomes: Cognitive, Psychomotor, and Affective. Regarding the cognitive learning outcomes, the unstandardized coefficient is B = -0.169, indicating a negative relationship that is statistically significant at $p = 0.004$. For psychomotor learning outcomes, B = 0.118, indicating a positive relationship, though not statistically significant at $p = 0.079$. Similarly, for affective learning outcomes, B = –0.171, indicating a negative relationship, but it is also not statistically significant at $p = 0.095$. Therefore, we reject Ho_4 for cognitive learning outcomes, but we cannot for psychomotor and affective learning outcomes.

Ho_5: There is no significant relationship between introversion and learning outcomes (such as cognitive, psychomotor, and affective).

Table 7: Introversion and Learning Outcomes

Variables	Coefficients	Cognitive	Psychomotor	Affective
Introversion	Unstandardised coefficient B	.119	-.104	.682
	Standard Error	.053	.061	.057
	T	2.237	-1.718	11.975
	Sig.	.026	.087	.000

The results of the regression showed introversion had some relationship with cognitive, psychomotor, and affective learning outcomes. In the case of cognitive learning outcomes, the B = 0.119, indicating a positive relationship, statistically significant at $p = 0.026 < 0.05$. At the same time, for psychomotor learning outcomes, B = -0.104, indicating a negative relationship, not statistically significant at $p = 0.087 > 0.05$. For affective learning outcomes, B = 0.682, pointing to a positive relationship, statistically significant at $p < 0.05$. These results enable us to test the hypothesis Ho_5. Hence, we reject Ho_5 for cognitive and affective learning outcomes but fail to reject for psychomotor learning outcomes.

Discussion

The study explored how personality types are related to the learning outcomes of secondary school students in Edo State. The findings showed that openness to experience was positively correlated with cognitive and affective learning outcomes but not with psychomotor learning outcomes. This agrees with previous studies, Komarraju, Karau, and Schmeck (2009); Poropat (2014); Yu (2021), where openness to experience was found to be an efficient forecaster of academic achievement.

On the other hand, conscientiousness showed a negative significant relationship with cognitive learning outcomes but no significant relationship with psychomotor and affective learning outcomes. Although that is contrary to a number of studies that have reported a positive relationship of conscientiousness with academic achievement, such as Atela (2023); Richardson Abraham, and Bond

(2012). Nevertheless, it has to be noted that the population of the current research was secondary school students, while in the previous ones, university students had been targeted.

There is found to be a positive relationship between Extraversion with cognitive and psychomotor learning outcome variables but not with the affective learning outcome variable. This result agrees with several previous studies, for example, Aydemir and Bayram (2022). Laidra, Pullmann, and Allik (2017) all found extraversion relating to academic achievement, with special attention paid to social learning environments.

The results indicated an inverse significant relationship between Agreeableness and Cognitive Learning Outcomes but no significant relationship with Psychomotor and Affective Learning Outcomes. This agrees with Eliezer and Marantika (2022) that agreeableness inversely related to academic achievement, especially in competitive learning environments.

Finally, introversion strong positive relationship existed with cognitive and affective learning outcomes but not with psychomotor learning outcomes. This agrees with past findings that introversion is related to academic achievement, especially in independent learning environments. In sum, the research points to the necessity of considering personality types in understanding learning outcomes amongst Form Four students.

Implications for Theory and Practice

The findings have bearings on the big five personality model to be applied in understanding individual differences in learning outcomes. On the basis of these findings, this study does affirm that traits in personality, such as openness to experience, conscientiousness, extra-version, agreeableness, and introversion, do play a very huge role in shaping learning outcomes. This thereby supports the theoretical framework put forth by the Big Five personality model that individual differences in personality can diffuse into all kinds of behaviours, including learning. These findings add to the literature accumulated on the Big Five personality model, contributing further proof toward the validity and applicability of this model within an educational context.

The practical implications of the present study on secondary schools confirm that individual differences in personality remain a major consideration in learning experiences. Teachers and other

educators could utilize the Big Five personality model when structuring their teaching techniques by recognizing the strengths and weaknesses of students. For example, the learning activities of students high in openness to experience might include more creative and exploratory activities, while students high in conscientiousness might benefit from more structured and organized learning environments. When educators acknowledge and accommodate such differences in personality, they make the learning environment more inclusive and effective for a wide array of diverse students' needs.

The findings also insinuate that personality-based interventions and programs can be adapted at the level of secondary schools with the view of enhancing positive learning outcomes. For example, some intervention programs can be designed to enhance openness to experience, for instance, creative writing classes or art-related activities. Other intervention programs may focus on enhancing conscientiousness, such as remedial skills or time management workshops. This will help secondary schools to bring about a more holistic approach toward teaching by recognizing the role of personality in learning, which will meet the diversified needs and abilities of students. Eventually, this leads to improved academic achievement, enhanced student engagement, and promotes well-being.

Conclusion

This study examined the effect of personality types on the students' learning outcomes in senior secondary schools in Edo State, Nigeria. This research was harnessed on the big five personality model that incorporates openness to experience, conscientiousness, extraversion, agreeableness, and introversion. The results of this study has established that personality traits have a significant effect on learning outcomes. More specifically, openness to experience and introversion emerged as positive correlates of affective learning outcomes, while extraversion was a positive correlate of both cognitive and psychomotor learning outcomes.

These results have implications for theory, for practice, and for the overall significance of accounting for individual differences in personality when engineering learning experiences. The results support the validity and applicability of the Big Five personality model in educational settings. This outcome also points to the fact that educators and policymakers need to think about incorporating interventions and

programs based on personality with positive learning outcomes. The recognition of the role played by personality in learning can establish a more inclusive and effective learning environment that meets the diverse needs of students. It contributes to the enhancement of understanding of the relationship between personality and learning outcomes and this also points at the necessity of putting individual differences regarding personality into consideration in designing learning experiences**.**

Recommendations

On the basis of the findings, the following are suggested:

1. Learning interventions that depend on personality: It is important for interventions and programmes to consider personality when embarking on what would go a long way in encouraging positive learning, for both teachers and policymakers. Such interventions include those that will encourage openness to experiences, such as creative writing or art classes, or those that encourage conscientiousness, including study skills or time management workshops.
2. Teaching method tailoring: An educator needs to tailor teaching methods to individual personality differences. For example, students high in openness to experience would enjoy more creative and imaginative learning activities than students high in conscientiousness, who might better benefit from a more structured and organized learning environment.
3. Personality assessment: Schools should consider incorporating personality assessments in their admission or placement procedures. This would help teachers understand areas in which the students are weak and strong, hence providing the necessary support that would enable them to achieve the best results.
4. Training teachers: Training must be imparted to teachers on the Big Five model of personality and its implications for learning. This will help teachers to fully understand individual differences in personality and give them strategies on how to accommodate the differences into their teaching practices.
5. Learning environments: An inclusive learning environment that provides day-to-day opportunities for students with diverse needs can involve extracurricular participation, developing a sense of humour, and fun through socialization and teamwork.

6. The Ministry of Education in Edo State, should ensure that their agencies, State Universal Basic Education Board (SUBEB) and Post Primary Education Board go round schools to ensure that these recommendations are enforced.

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